

# **Delivery of Preventive Services and Ambulatory Care:**

## **A Report of Regional and Managed Care Organization Variation**

**External Quality Review Organization  
First Mental Health, Inc.**

**December 1997**

## **Delivery of Preventive Services and Ambulatory Care: A Report of Regional and Managed Care Organization Variation**

The January 1, 1994 implementation of the TennCare program has created an opportunity to evaluate the performance of a new capitated managed care delivery system in meeting the health care needs of 1.2 million Tennesseans. In any health care system there are an unlimited number of analyses which can be undertaken in an effort to assess system performance. This is especially true in a new service delivery system. Priorities must be established in order to provide direction and focus for quality improvement studies. These priorities may be dictated by such issues as:

1. the percentage or number of affected enrollees
2. the feasibility of and/or difficulty involved in measuring performance
3. the potential utility of the information to be collected
4. the availability of benchmarks or best practice guidelines; and,
5. the consequences of poor performance.

This study uses encounter data to evaluate TennCare and managed care organization (MCO) performance in the delivery of preventive services. Since women and children make up approximately 75% of the TennCare population, several performance measures were selected to focus on these population groups. In addition to these measures, hospitalizations for ambulatory care sensitive (ACS) conditions were analyzed as an indicator of access to and quality of outpatient care for the entire TennCare population.

The data are presented in two sections. The first section includes all members of the TennCare population within the given age group for each of the measures. Rates of the various services are presented as per 1000 member years for standard age groups. Member year calculations are typically used with HMO populations and have particular application for Medicaid-type populations in which members tend to move in and out of eligibility, because adjustment is made based on the members' duration of enrollment. The second section presents data defined as in the Health Plan Employer Data and Information Set (HEDIS 3.0). HEDIS is a set of standardized performance measures, designed to ensure that the public has the information it needs to reliably compare the performance of managed health care plans. It was developed by the National Committee on Quality Assurance (NCQA), a not-for-profit organization committed to evaluating and reporting on the quality of managed care plans. HEDIS measures assess only individuals who are continuously enrolled (allowing for one break up to 45 days) during the period of interest. Percentages of continuously enrolled members receiving mammograms, pap smears, well child visits, and dental visits for the HEDIS-defined age groups are presented.

Both methodologies are included herein to provide a more complete representation of the performance of the managed care organizations and the overall TennCare program. The member year approach includes every member of the population enrolled during the reporting year in proportion to the length of enrollment. It provides a comprehensive look

at the population, because every member is included. Secondly, it provides a fairer base of comparison of plans than strict population statistics, because the denominator is adjusted based on length of the members' enrollments. HEDIS measures, conversely, include only those members who were continuously enrolled throughout the reporting period. Some argue this is a more effective means of monitoring the true impact of managed care, since it excludes members who were enrolled in the plan for only a short time period. The members included in HEDIS reporting are thought to have been enrolled long enough for the plan to have had an opportunity to conduct the education, outreach, and/or case management necessary to influence service utilization.

It is important to note that neither measure reported, member year or HEDIS, is more correct than the other. They merely provide different perspectives on the delivery of services in the TennCare program. Member year rates represent what is occurring within the entire population, while HEDIS measures are focused on a more homogeneous subset of the population. Both were utilized in order to provide the most accurate and complete view of the delivery of TennCare services.

### Measures

Breast cancer is the most common type of cancer in women and the second leading cause of cancer death in American women. Mortality from breast cancer is strongly influenced by stage at detection. Mammography is the most effective means of early detection, and while there is some controversy concerning screening in young women, all major authorities recommend routine screening for women 50 years of age and older. This report presents mammography screening rates for women between the ages of 50 and 64 and the percentages of continuously enrolled women between the ages of 52 and 69 who received a mammography.

Like breast cancer, the effectiveness of early detection and treatment of cervical cancer has been well documented. It is estimated that the use of pap smear screening has resulted in a 70% decrease in the incidence of invasive cervical cancer in the United States. Unfortunately, research indicates that many women have not had regular pap smears. While specific screening schedules vary, there is general consensus among the major authorities that all sexually active women should receive screens at one to three year intervals. In this report, pap smear screening rates are reported for women age 21 through 64. Also reported are the percentages of these continuously enrolled women receiving a pap smear.

Well child check-ups have been a priority of the Medicaid program for many years. These visits represent important opportunities to:

1. provide preventive care (such as immunizations)
2. conduct developmental/behavioral assessments
3. identify physical problems early and initiate appropriate treatment; and,
4. address parental concerns and provide anticipatory guidance.

This report gives visit rates for children ages three through six years and the percentages of these continuously enrolled children who received at least one visit.

This report also provides information on dental visit rates for enrollees under the age of 21 and percentages of continuously enrolled children ages 4 through 21 who received a dental visit. Dental care is an important benefit for all children enrolled in the TennCare program. Despite dramatic success in the reduction of caries in children over the past 20 years, many oral diseases still appear in young children. Early childhood dental care is an opportunity to educate parents about effective techniques for preventing oral diseases. In addition, early diagnosis and prompt treatment can eliminate pain, infection, and progressive oral diseases.

The final health indicator measured for this report was hospitalizations for ambulatory care sensitive conditions. Ambulatory care sensitive conditions are conditions sensitive to management in the ambulatory care setting, given timely and appropriate primary care. Without such care, hospitalization may result. Ambulatory care sensitive conditions include chronic conditions such as asthma and congestive heart failure, preventable conditions such as immunization preventable diseases, and rapid onset conditions such as gastroenteritis and bacterial pneumonia. Crude and adjusted rates of inpatient admission for individuals under age 65 with ACS diagnoses are presented.

## **Section 1: Member Year Measures**

### **Methodology**

#### **Definitions**

*Mammograms:* The number of unduplicated visits with a CPT-4 code of 76090, 76091, or 76092; a revenue code of 401 or 403; an ICD-9-CM procedure code of 87.37 or 87.36; or a revenue code of 320 or 400 in conjunction with an ICD-9-CM diagnosis code of 174.xx, 198.81, 217, 233.0, 611.72, 793.8, V10.3, or V76.1 received by women ages 50 through 64 years during the reporting year.

*Pap Smears:* The number of unduplicated visits with a CPT-4 code of 88150, 88151, 88155, 88156, or 88157; a revenue code of 923; a revenue code of 300 or 310 in conjunction with an ICD-9-CM diagnosis code of 180.x, 233.1, 622.x, 795.0, 795.1, V72.3, or V76.2; or an ICD-9-CM procedure code of 91.46 received by women ages 21 through 64 years during the reporting year.

*Well Child Visits for Children Ages Three, Four, Five, and Six:* The number of unduplicated visits with a CPT-4 code of 99382, 99383, 99392, or 99393 or an ICD-9-CM code of V20 through V20.2, V70.0, or V70.3 through V70.9 received by children who were three, four, five, or six years old during the reporting year.

*Dental Visits:* The number of unduplicated visits with a CDT-2 code of 00100 through 09999 or a state alpha dental code of Y0807 or Y2023 through Y2119 received by members under the age of 21 years during the reporting year.

*Inpatient Admissions for All Ambulatory Care Sensitive Diagnoses:* The number of unduplicated inpatient admissions with an ICD-9-CM diagnosis code of 090 through 090.99 in conjunction with an age of 0 years; 033 through 033.99; 390 through 390.99; 391 through 391.99; 037 through 037.99; 045 through 045.99; 320.0 through 320.09; 280.1 through 280.19; 280.8 through 280.89; 280.9 through 280.99; 260 through 260.99; 261 through 261.99; 262 through 262.99; 268.0 through 268.09; 268.1 through 268.19; 783.4 through 783.49 in conjunction with an age of 0 years; 780.3 through 780.39; 382 through 382.99; 462 through 462.99; 463 through 463.99; 465 through 465.99; 472.1 through 472.19; 481 through 481.99; 482.2 through 482.29; 482.3 through 482.39; 482.9 through 482.99; 483 through 483.99; 485 through 485.99; 486 through 486.99; 681 through 681.99; 682 through 682.99; 683 through 683.99; 686 through 686.99; 251.2 through 251.29; 250.1 through 250.19; 250.2 through 250.29; 250.3 through 250.39; 558.9 through 558.99; 590 through 590.99; 599.0 through 599.09; 599.9 through 599.99; 276.5 through 276.59; 614 through 614.99; 345 through 345.99; 011 through 011.99; 012 through 012.99; 491 through 491.99; 492 through 492.99; 494 through 494.99; 496 through 496.99; 493 through 493.99; 428 through 428.99; 402.01; 402.11; 402.91; 518.4 through 518.49; 401.0 through 401.09; 401.9 through 401.99; 402.00; 402.10; 402.90; 411.8 through 411.89; 413 through 413.99; 250.8 through 250.89; 250.9 through 250.99; 250.0 through 250.09; 521 through 521.99; 522 through 522.99; 523 through 523.99; 525 through 525.99; or 528 through 528.99 for members under the age of 65 years.

## Data

All data presented in this study were derived from TennCare eligibility and encounter data. Each managed care organization is required to provide the state with information concerning every service delivered to a TennCare recipient. This information is collected and stored in the form of encounter records. Comparisons of encounter data with corroborative sources demonstrate a significant improvement in the quality of the encounter data reported by the MCOs to TennCare. The process of assessing the degree to which the MCOs and providers consistently and accurately report encounter information to TennCare is ongoing.

## Calculation of Rates

Using the above definitions, counts of the preventive services were obtained from databases containing professional and outpatient encounter records of TennCare members. The professional and outpatient records were combined, and duplicate records were removed. Counts of dental visits were obtained from a database containing dental encounter records, and counts of the ACS admissions were collected from a database of inpatient encounters. Data were collected for both 1995 and 1996.

Population counts are not meaningful for calculating rates with a Medicaid population, because members tend to move in and out of eligibility. Member year is a measure which has proven more appropriate. Member year was calculated for each measure by dividing the total number of eligible days for members of each population by 365 (366 for 1996 which was a leap year). The crude rate for each of the measures was then calculated by dividing the number of services by the number of member years. Rates are presented as per 1000 member years.

Adjusted rates are presented for the ACS inpatient admissions, adjusted for the factors of race, sex, age category, and morbidity category. Morbidity is defined as the health status of the individual, that is, how sick a person is and was calculated using the Johns Hopkins Ambulatory Care Group Case-Mix Adjustment methodology. When making adjustments, it is customary to adjust to a single standard population. In the present case, the 1995 TennCare population would be used as the standard both for 1995 and 1996. However, this appears inappropriate herein due to the manner in which morbidity is defined. An individual's morbidity is determined by particular diagnoses received (and reported in encounter data) in a given year. It is possible that an individual's morbidity category could change from year to year, particularly if chronic conditions are not always recorded. This potential inconsistency makes populations across years not comparable. Consequently, 1995 TennCare is used as the standard population for the 1995 MCO adjustments, and 1996 TennCare is used as the standard for the 1996 MCO adjustments.

Rates are presented within the report as various charts for each of the measures. Data are also presented in tabular form in Appendix A.

### Normative Data

Normative data were obtained, when available, for the purposes of comparing both the TennCare population as a whole and each of the MCOs and CSAs to data collected from sources outside TennCare. Rates for the 1993 Tennessee Medicaid population were calculated for each of the measures. The 1995 pap smear and well child visit rates for the South and the 1995 national well child visit rate were calculated using data from the National Ambulatory Care Survey (NACS) and the National Hospital Ambulatory Care Survey (NHACS), both performed by the Centers for Disease Control and Prevention (CDC). The 1994 U.S. admission rate for individuals with ACS diagnoses was calculated using data from the National Hospital Discharge Survey (NHDS), also performed by CDC.

## Results

### Mammograms

The mammogram rates are presented by MCO in Figure 1 and by CSA in Figure 2. Overall, utilization of mammograms is increasing over time. The TennCare rate increased from 1995 to 1996, both of which are considerably higher than the 1993 Tennessee Medicaid rate. This pattern is similar for many of the MCOs. Nine MCOs increased utilization from 1995 to 1996, with three MCOs having lower 1996 rates. Omni and PHP had 1995 rates lower than the 1993 Medicaid rate, and TennSource's 1996 rate dropped below the Medicaid rate, although only slightly. Rates for every CSA increased from 1995 to 1996, and all rates were above that of 1993 Medicaid.

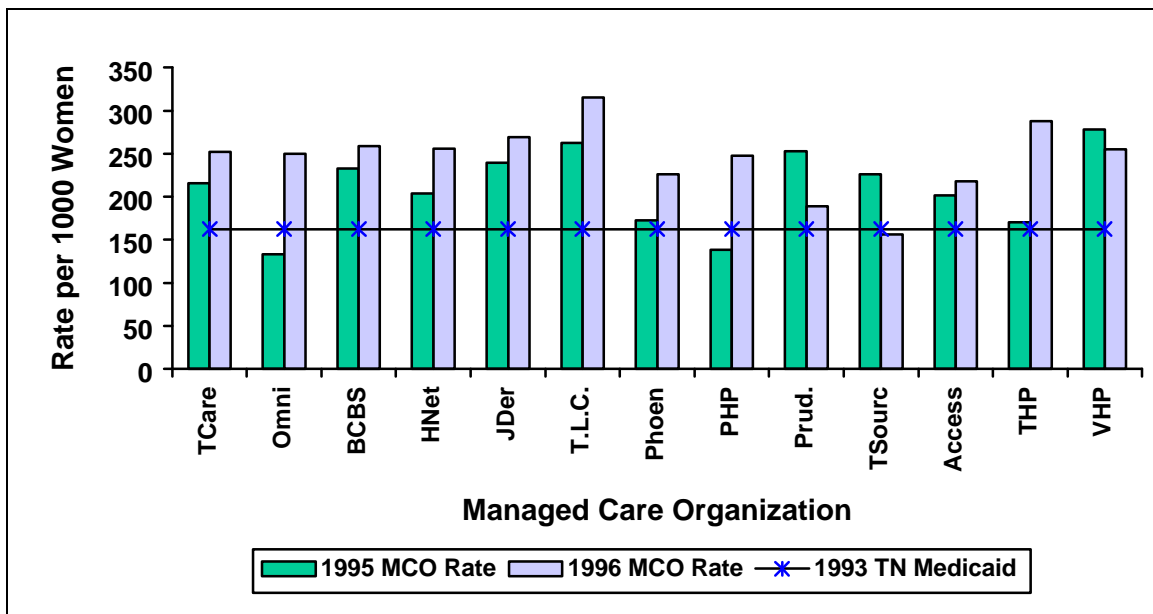


Figure 1: Mammogram Rate per 1000 Female Member Years between the Ages of 50 and 64 by Managed Care Organization

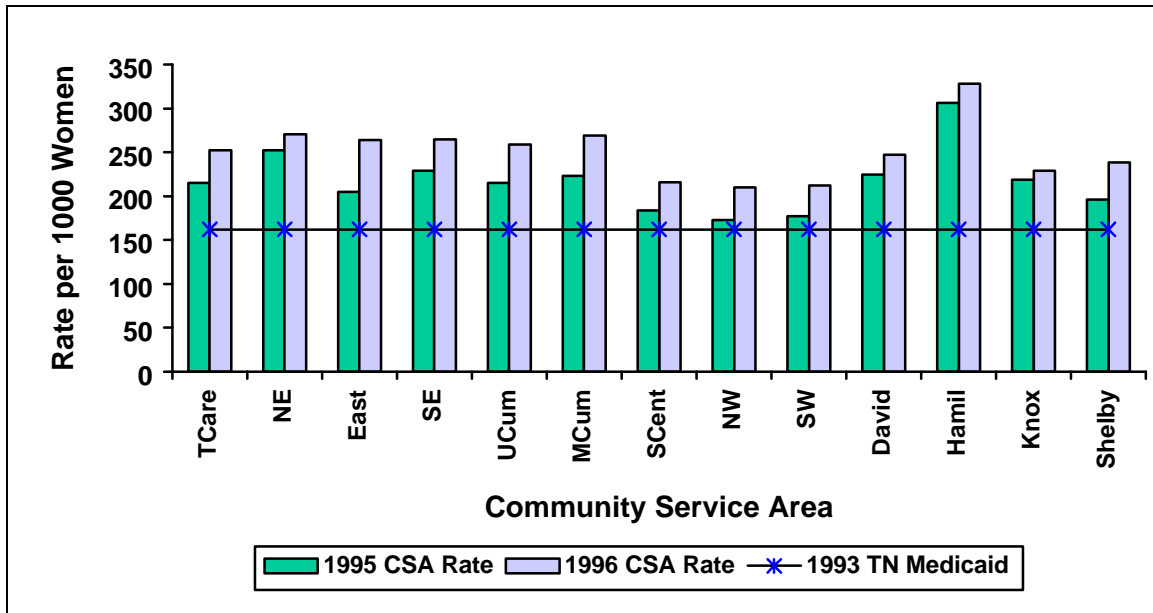


Figure 2: Mammogram Rate per 1000 Female Member Years between the Ages of 50 and 64 by Community Service Area

### Pap Smears

Pap smear utilization is far less consistent across managed care organizations and community service areas than that of mammograms. The data are presented in Figure 3 (MCO breakdowns) and Figure 4 (CSA breakdowns). Rates for 1995 range from 299 per 1000 member years for Blue Cross / Blue Shield to 2 for Prudential. The range is similar for 1996, with HealthNet at 353 and Prudential at 4. With respect to CSA, the Northeast, Upper Cumberland, and Knox CSAs had high rates for 1995; in 1996, the Middle Cumberland, Upper Cumberland, and Northeast CSAs were the leaders. Shelby CSA was considerably lower than any of the others both in 1995 and 1996, and Hamilton CSA was the next lowest both years.

As was the case with mammograms, the pap smear rate increased from 1995 to 1996 for TennCare overall; all of the CSAs and eight of the MCOs increased as well. The rate decreased for four MCOs. Omni had the most dramatic increase, from 148 per 1000 in 1995 to 284 per 1000 in 1996, the fourth highest.

Unlike mammograms, the 1993 Tennessee Medicaid rate was higher than both that of 1995 and 1996 for the TennCare population, though the 1996 rate approximated the 1993 level. This is attributable, at least in part, to the extremely low rates reported by Prudential and Access Med Plus. The rate for the South calculated from the NACS and NHACS data is virtually identical to that of 1995 TennCare and, of course, lower than the 1996 TennCare rate.



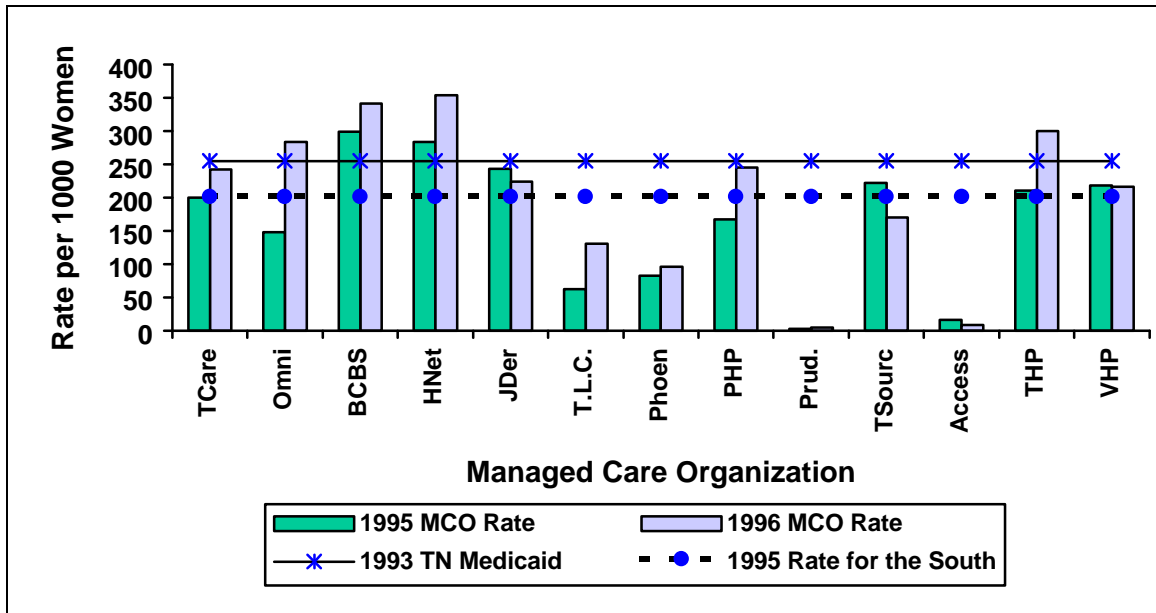


Figure 3: Pap Smear Rate per 1000 Female Member Years between the Ages of 21 and 64 by Managed Care Organization

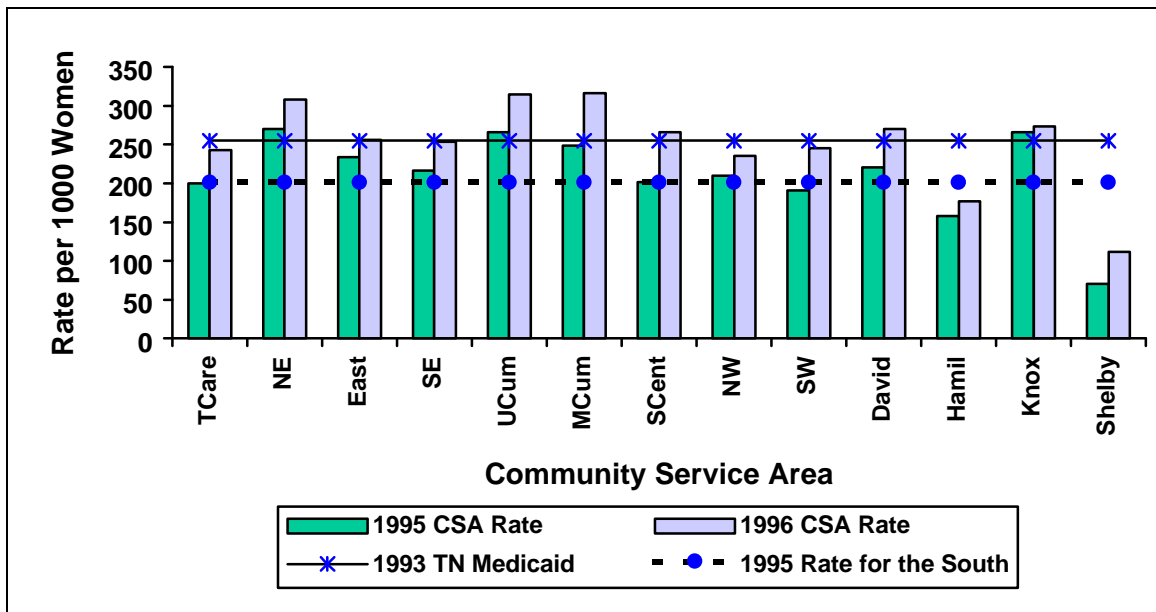


Figure 4: Pap Smear Rate per 1000 Female Member Years between the Ages of 21 and 64 by Community Service Area

### Well Child Visits for Children Ages Three, Four, Five, and Six

As illustrated in Figures 5 and 6, the TennCare average exceeded the three norms obtained (1993 Tennessee Medicaid and the 1995 national and southern rates) for both 1995 and 1996. All MCOs and CSAs had rates above the southern rate, the lowest of the three. Only Prudential and Knox CSA did not reach the 1993 Medicaid rate either in 1995 or 1996. Of the five indicators studied, this was the only measure which did not improve from 1995 to 1996.

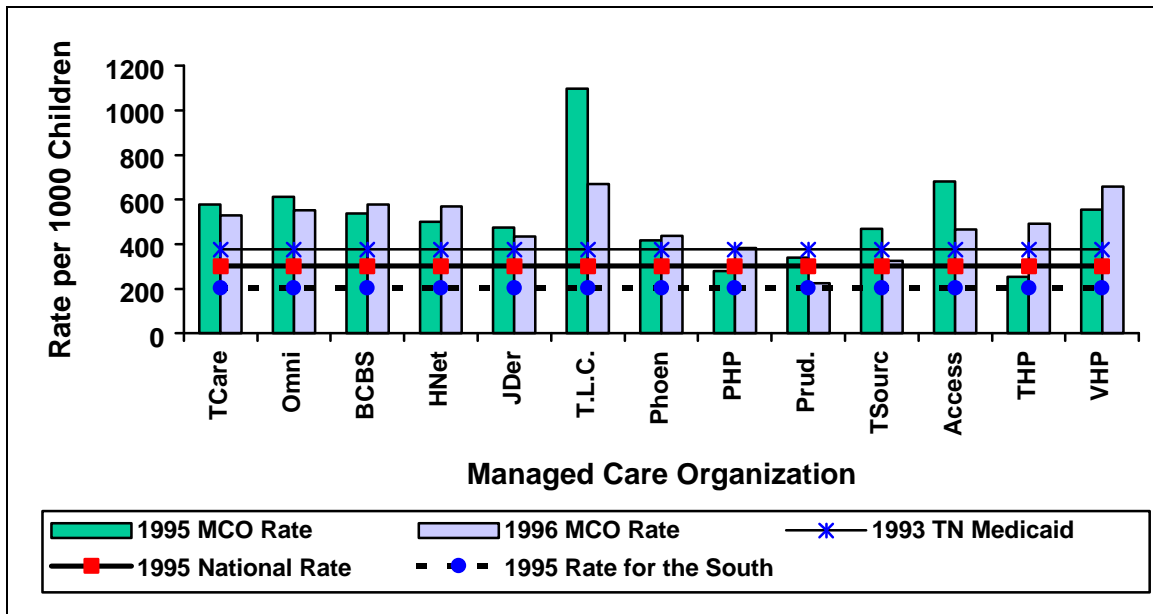


Figure 5: Well Child Visit Rate per 1000 Member Years between the Ages of 3 and 6 by Managed Care Organization

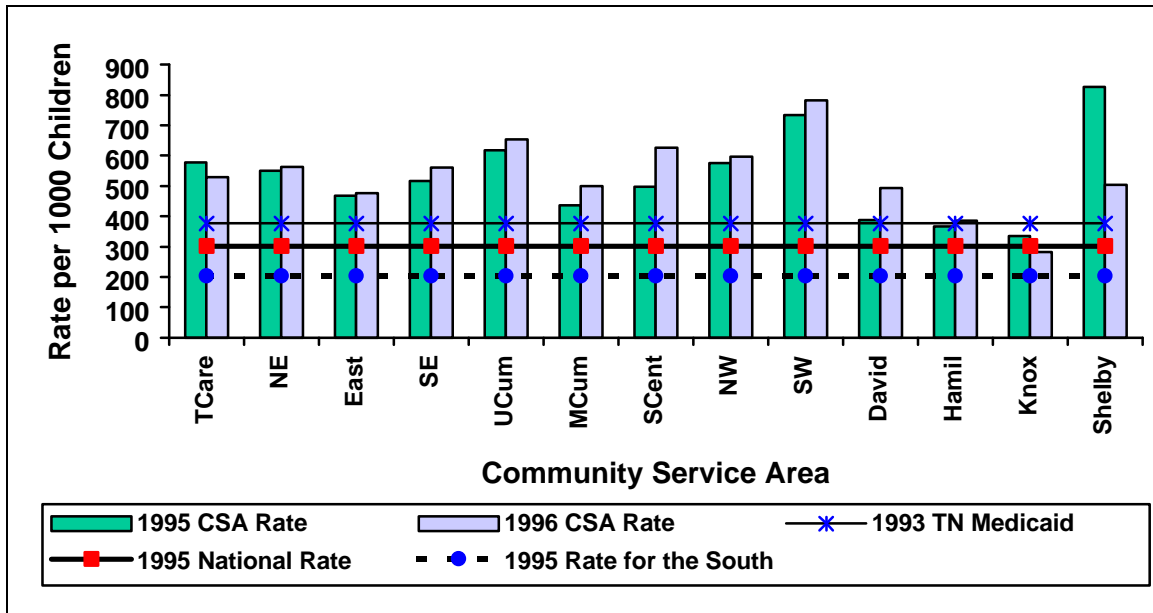


Figure 6: Well Child Visit Rate per 1000 Member Years between the Ages of 3 and 6 by Community Service Area

### Dental Visits

Figures 7 and 8 provide dental visit rates for enrollees under the age of 21. The overall TennCare rate did improve from 1995 to 1996, spurred by improvements in 10 of the 12 MCOs. However, both the 1995 and 1996 rates were lower than the 1993 Medicaid rate. The only MCOs surpassing the 1993 Medicaid rate were TennSource in both years and THP in 1995. Knox CSA's 1996 rate was also higher. The most dramatic improvement was by PHP, doubling the 1995 rate to rank second in 1996. Omni and Prudential had the lowest rates both in 1995 and 1996.

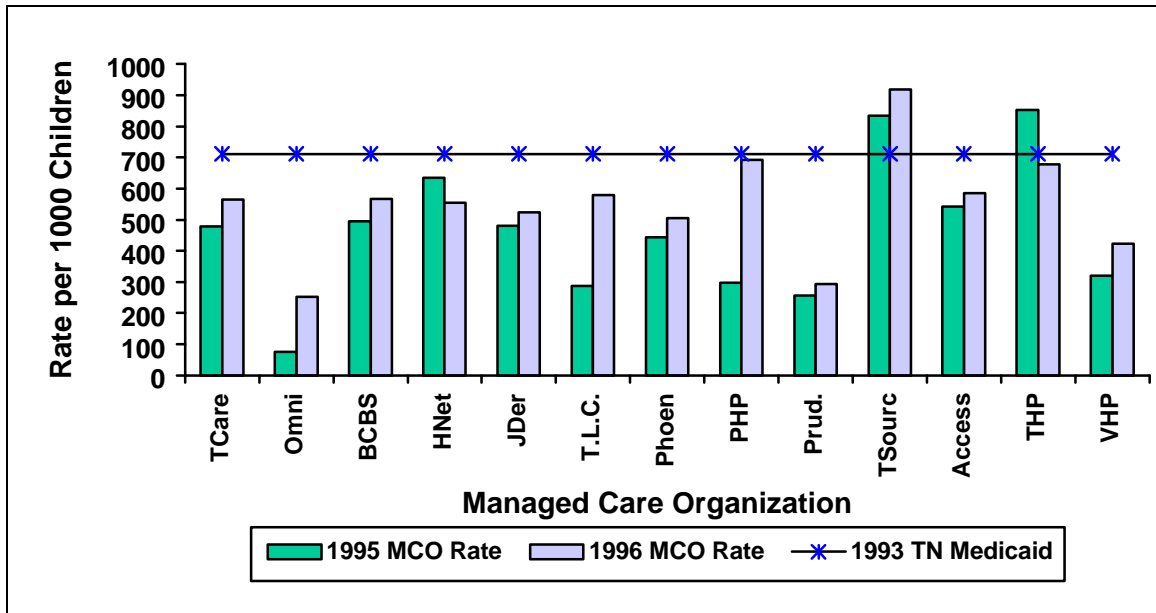


Figure 7: Dental Visit Rate per 1000 Member Years Under the Age of 21 by Managed Care Organization

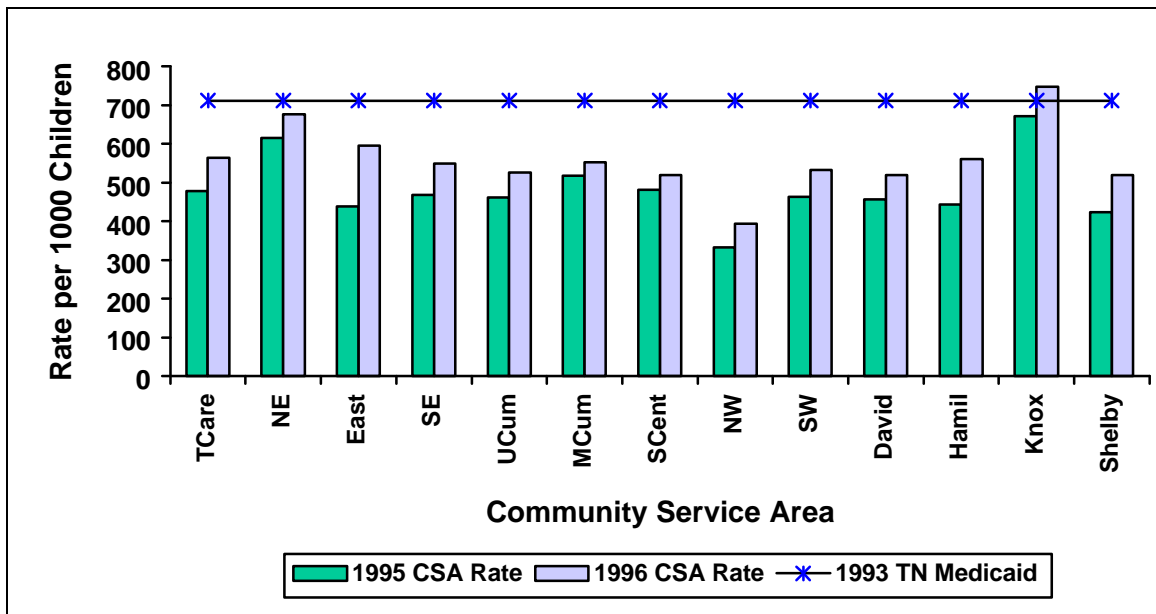


Figure 8: Dental Visit Rate per 1000 Member Years Under the Age of 21 by Community Service Area

### Inpatient Admissions for All Ambulatory Care Sensitive Diagnoses

Crude inpatient admission rates for individuals with ACS conditions are presented in Figures 9 and 10. The overall TennCare rate decreased from 1995 to 1996. Similar improvement was noted when comparing TennCare rates to the 1993 Medicaid rate. None of the CSAs and only two of the MCOs (Omni and Prudential) approached the 1994 U.S. rate. It should be noted, however, that the U.S. rate is representative of the entire population, as opposed to the Medicaid population.

Figures 11 and 12 present adjusted inpatient admission rates for individuals with ACS conditions. As previously discussed, the MCO admission rates were adjusted for race, sex, age, and morbidity. In 1995 and 1996 three MCOs had adjusted rates exceeding the 1993 Medicaid norm, with PHP and TLC exceeding the rate in both years.

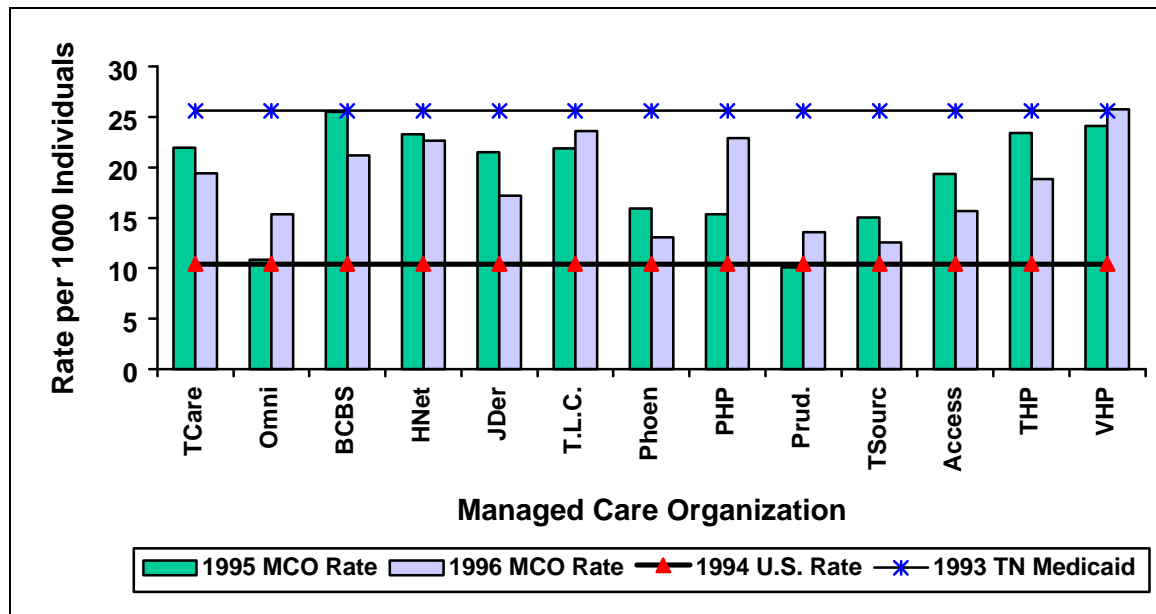


Figure 9: Crude Admission Rate per 1000 Member Years Under the Age of 65 for All Ambulatory Care Sensitive Diagnoses by Managed Care Organization

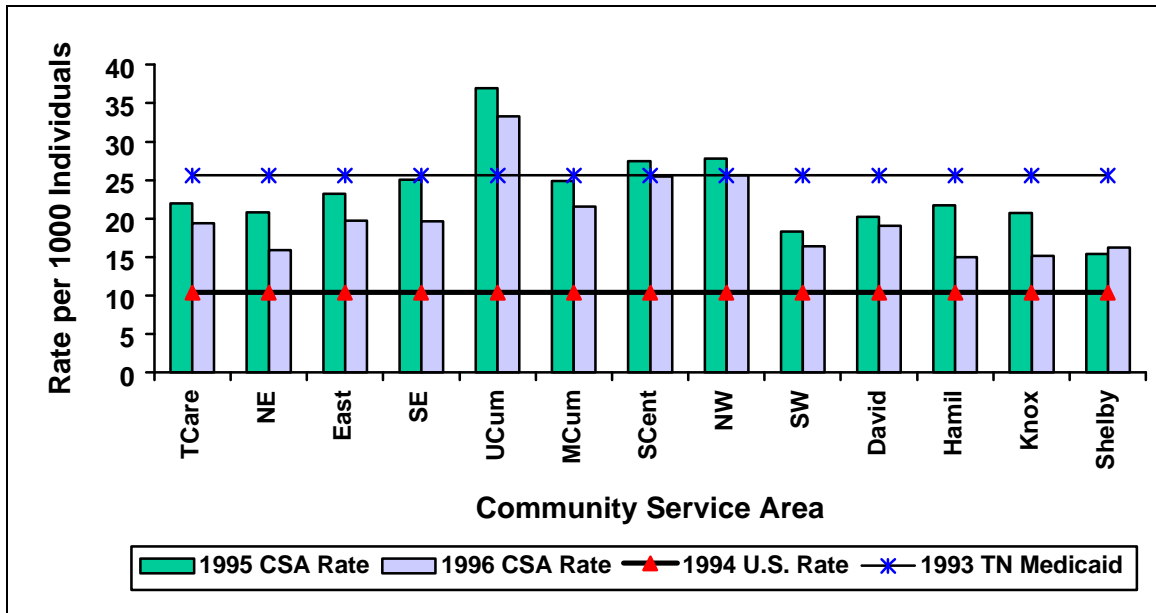


Figure 10: Crude Admission Rate per 1000 Member Years Under the Age of 65 for All Ambulatory Care Sensitive Diagnoses by Community Service Area

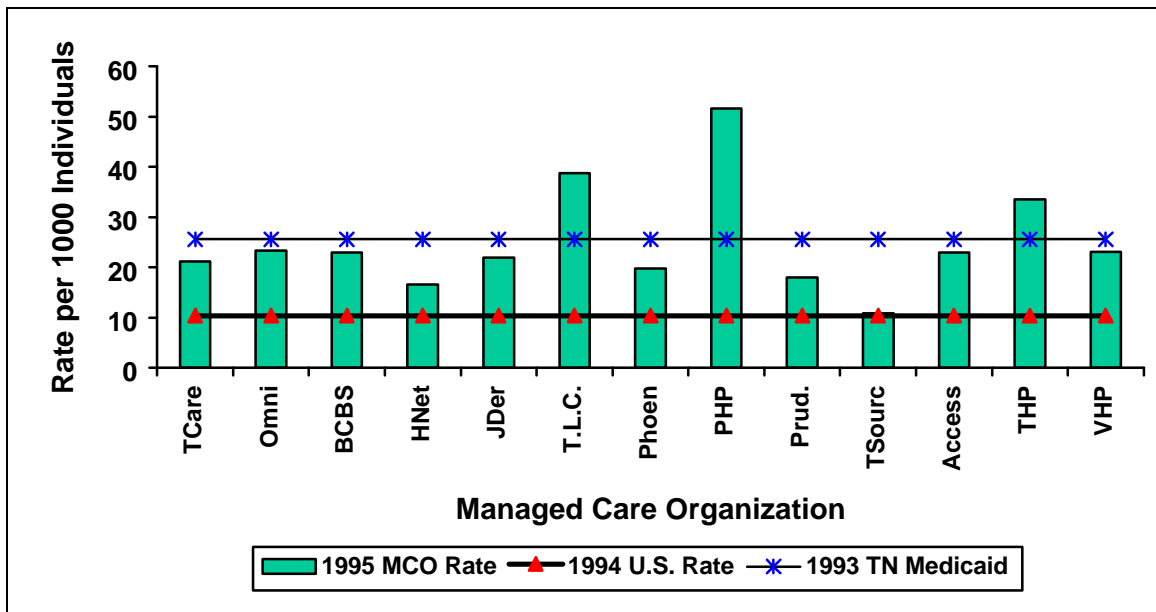


Figure 11: 1995 Adjusted Admission Rate per 1000 Member Years Under the Age of 65 for All Ambulatory Care Sensitive Diagnoses by Managed Care Organization

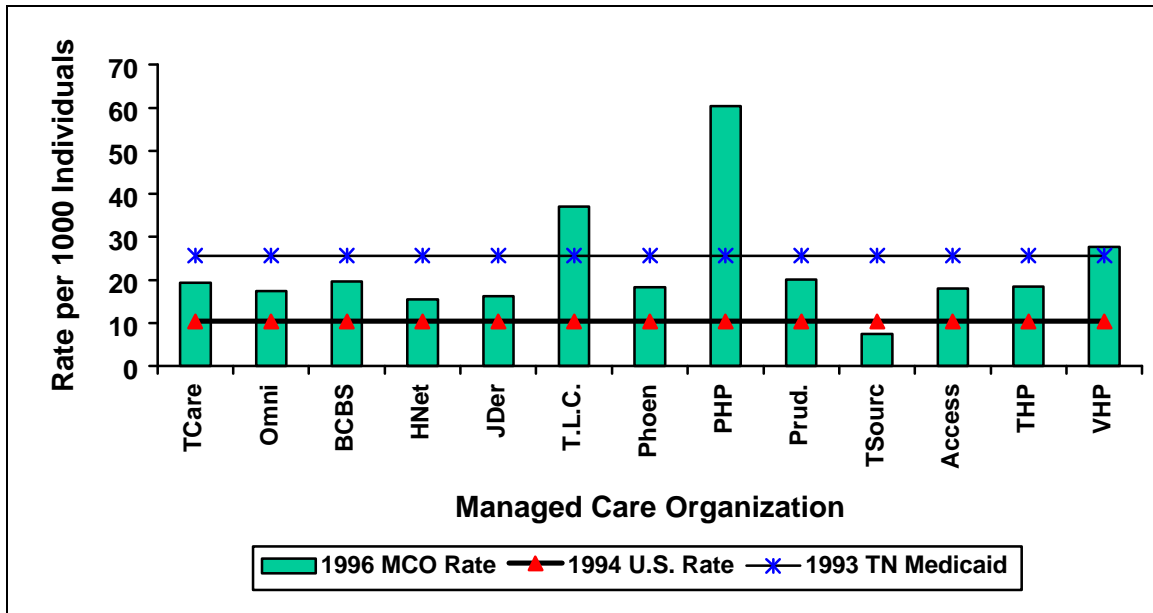


Figure 12: 1996 Adjusted Admission Rate per 1000 Member Years Under the Age of 65 for All Ambulatory Care Sensitive Diagnoses by Managed Care Organization

## Section 2: HEDIS 3.0 Measures

### Methodology

#### Definitions

*Mammograms:* The percentage of enrollees between the ages of 52 and 69 who were continuously enrolled (with no more than one break in enrollment up to 45 days) during the reporting year and the preceding year and who had a mammogram during the reporting year or the preceding year. A mammogram was defined as a CPT-4 code of 76090, 76091, or 76092; a revenue code of 401 or 403; an ICD-9-CM procedure code of 87.37 or 87.36; or a revenue code of 320 or 400 in conjunction with an ICD-9-CM diagnosis code of 174.xx, 198.81, 217, 233.0, 611.72, 793.8, V10.3, or V76.1.

*Pap Smears:* The percentage of enrollees between the ages of 21 and 64 years who were continuously enrolled (with no more than one break in enrollment up to 45 days) during the reporting year and who received one or more pap smears during the reporting year or the two years prior to the reporting year. A pap smear was defined as a CPT-4 code of 88150, 88151, 88155, 88156, or 88157; a revenue code of 923; a revenue code of 300 or 310 in conjunction with an ICD-9-CM diagnosis code of 180.x, 233.1, 622.x, 795.0, 795.1, V72.3, or V76.2; or an ICD-9-CM procedure code of 91.46.

*Well Child Visits for Children Ages Three, Four, Five, and Six:* The percentage of enrollees who were three, four, five, or six years old during the reporting year, who were continuously enrolled (with no more than one break in enrollment up to 45 days) during the reporting year, and who received one or more well child visits during the reporting year. A well child visit was defined as a CPT-4 code of 99382, 99383, 99392, or 99393 or an ICD-9-CM code of V20 through V20.2, V70.0, or V70.3 through V70.9.

*Annual Dental Visit:* The percentage of enrollees between the ages of 4 and 21 who were continuously enrolled (with no more than one break in enrollment up to 45 days) during the reporting year and who received at least one dental visit during the reporting year. A dental visit was defined as a HCPCS code of D0120 through D0999, D1110 through D1550, D2110 through D2999, D3110 through D3999, D4210 through D4999, D5110 through D5899, D6010 through D6199, D7110 through D7999, D8010 through D8999, or D9110 through D9999; a CPT-4 code of 70300, 70310, 70320, or 70355; an ICD-9-CM procedure code of 23.xx through 24.xx, 87.11, 87.12, 89.31, 93.55, 96.54, 97.33, 97.34, 97.35, 97.22, or 99.97; or a CDT-2 code of 00120, 00140, 00150, 00160, 00210 through 00340, 00415 through 00999, or 01110 through 01550.

### Data

All data presented in this study were derived from TennCare eligibility and encounter data. Each managed care organization is required to provide the state with information concerning every service delivered to a TennCare recipient. This information is collected and stored in the form of encounter records. Comparisons of encounter data with corroborative sources demonstrate a significant improvement in the quality of the encounter data reported by the MCOs to TennCare. The process of assessing the degree to which the MCOs and providers consistently and accurately report encounter information to TennCare is ongoing.

### Calculations

Using the above definitions, counts of services were obtained from databases containing encounter records of TennCare members. The records were combined, and duplicate records for an individual were removed. The individuals identified as having received a service were matched to an extract of the TennCare eligibility file which contained individuals who met the HEDIS requirements of each measure for age and continuous enrollment. Only those individuals who received a service and met the HEDIS criteria for eligibility were retained. The percentages presented were determined by dividing the matched number of individuals by the total number of individuals who met the eligibility criteria. Data were collected for both 1995 and 1996.

Percentages are presented within the report as various charts for each of the measures. Data are also presented in tabular form in Appendix B.



## Normative Data

Normative data were obtained for the purposes of comparing both the TennCare population as a whole and each of the MCOs and CSAs to 1993 Tennessee Medicaid. These percentages were calculated using the same HEDIS methodology described above.

## Results

### Mammograms

The percentages of women receiving mammograms are presented by MCO in Figure 13 and by CSA in Figure 14. Overall, utilization of mammograms is increasing over time. The TennCare percentage increased from 1995 to 1996, both of which are considerably higher than 1993 Medicaid. This pattern was similar for the MCOs, with only John Deere and THP decreasing from 1995 to 1996. All percentages were above the Medicaid norm, with the exception of PHP in 1995. In 1996, only Knox CSA was lower than the 1995 percentage, with both years virtually identical on overall performance. Only the 1995 Northwest CSA was lower than 1993 Medicaid.

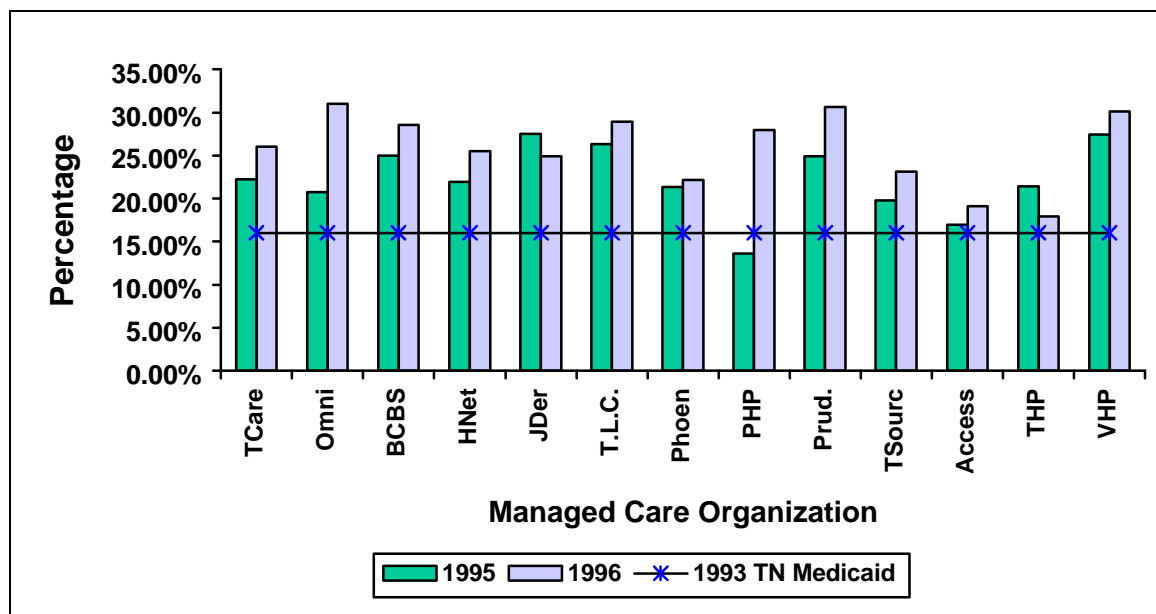


Figure 13: Percentage of Continuously Enrolled TennCare Members Between the Ages of 52 and 69 Who Received a Mammogram During the Reporting Year or Previous Year by Managed Care Organization

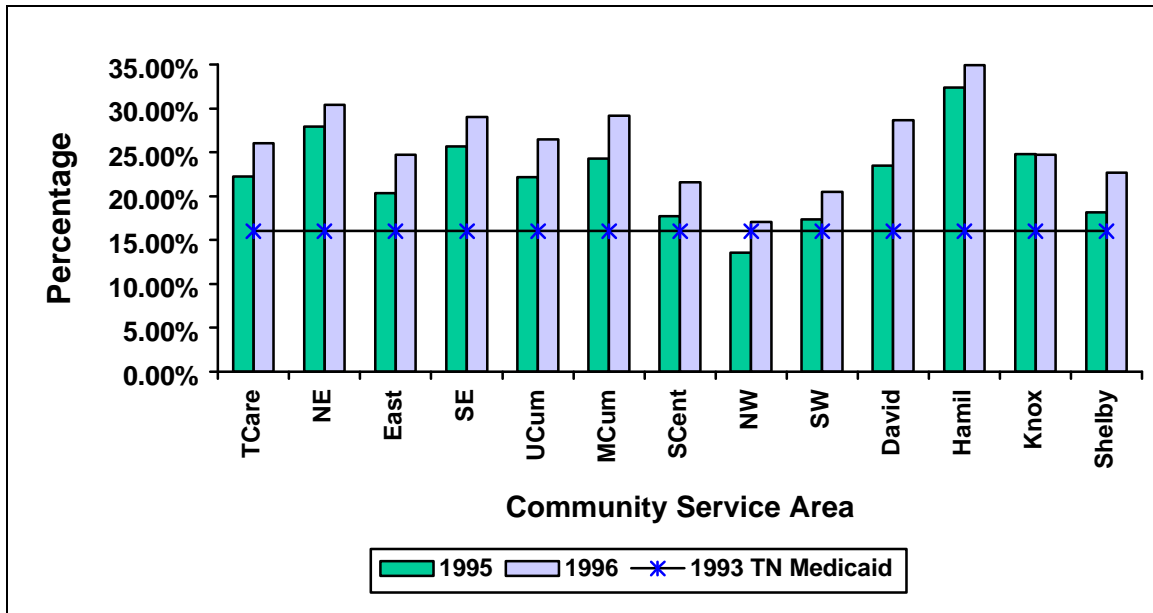


Figure 14: Percentage of Continuously Enrolled TennCare Members Between the Ages of 52 and 69 Who Received a Mammogram During the Reporting Year or Previous Year by Community Service Area

### Pap Smears

Pap smear results show a trend similar to that of mammograms from 1993 to 1996, as illustrated in Figures 15 and 16. 1996 percentages were higher than those in 1995, both of which were considerably higher than 1993 Medicaid. MCO performance was far more varied than that of mammograms, however. Prudential and Access Med Plus demonstrated quite low percentages, while HealthNet, Vanderbilt, and Blue Cross / Blue Shield approached 50 percent in 1996. All MCOs did improve from 1995 to 1996, with only Prudential, Access Med Plus, and 1995 TLC percentages lower than 1993 Medicaid.

Percentages increased from 1995 to 1996 in all CSAs except the East, in which 1995 and 1996 were very similar. All other CSAs, with the exception of Knox county, demonstrated sizable increases. The only CSA with performance lower than 1993 Medicaid was 1995 Shelby, which was only slightly below the overall Medicaid percentage.

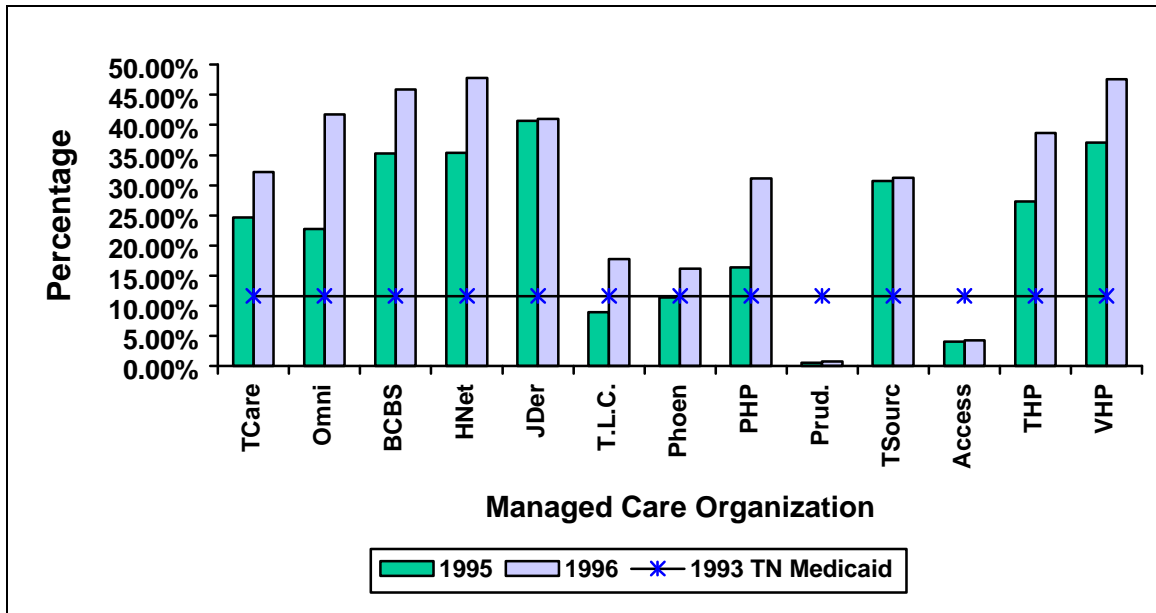


Figure 15: Percentage of Continuously Enrolled TennCare Members Between the Ages of 21 and 64 Who Received at Least One Pap Smear During the Reporting Year or Previous Two Years by Managed Care Organization

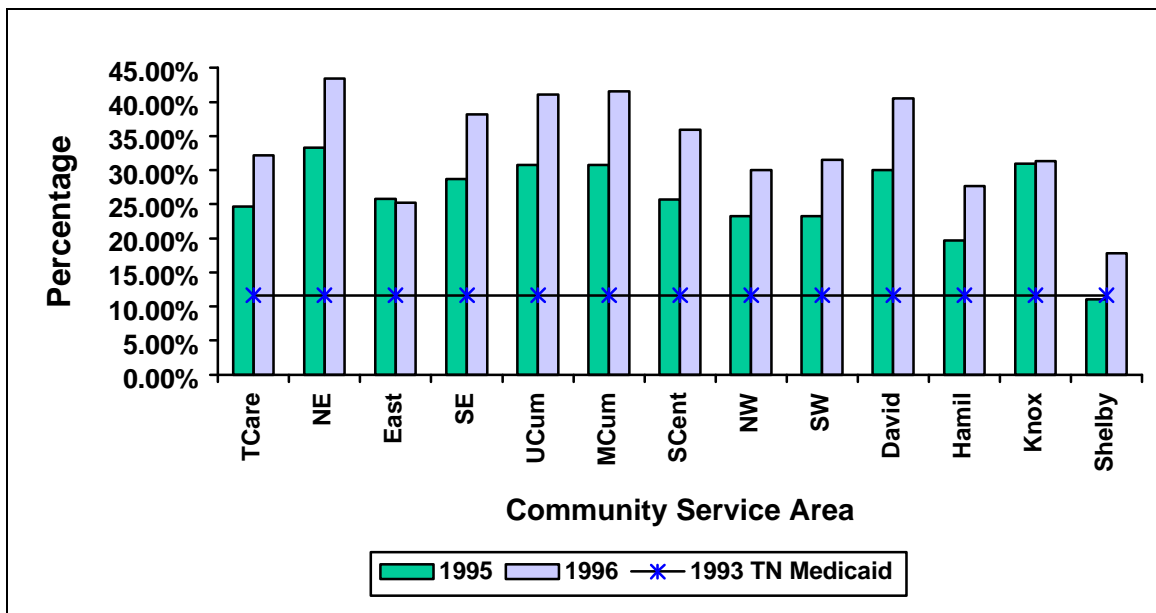


Figure 16: Percentage of Continuously Enrolled TennCare Members Between the Ages of 21 and 64 Who Received at Least One Pap Smear During the Reporting Year or Previous Two Years by Community Service Area

## Well Child Visits

Data on well child visits are displayed by MCO in Figure 17 and by CSA in Figure 18. As was the case with mammograms and pap smears, the TennCare percentages significantly exceeded Medicaid. There was no corresponding increase from 1995 to 1996, however, with performance remaining virtually constant. Although the rate in seven MCOs increased from 1995 to 1996, five MCOs experienced a rate decrease. CSA performance was more consistent; only Knox and Shelby CSAs showed decreased 1996 performance from 1995. All MCO and CSA percentages were higher than the 1993 Medicaid percentage level.

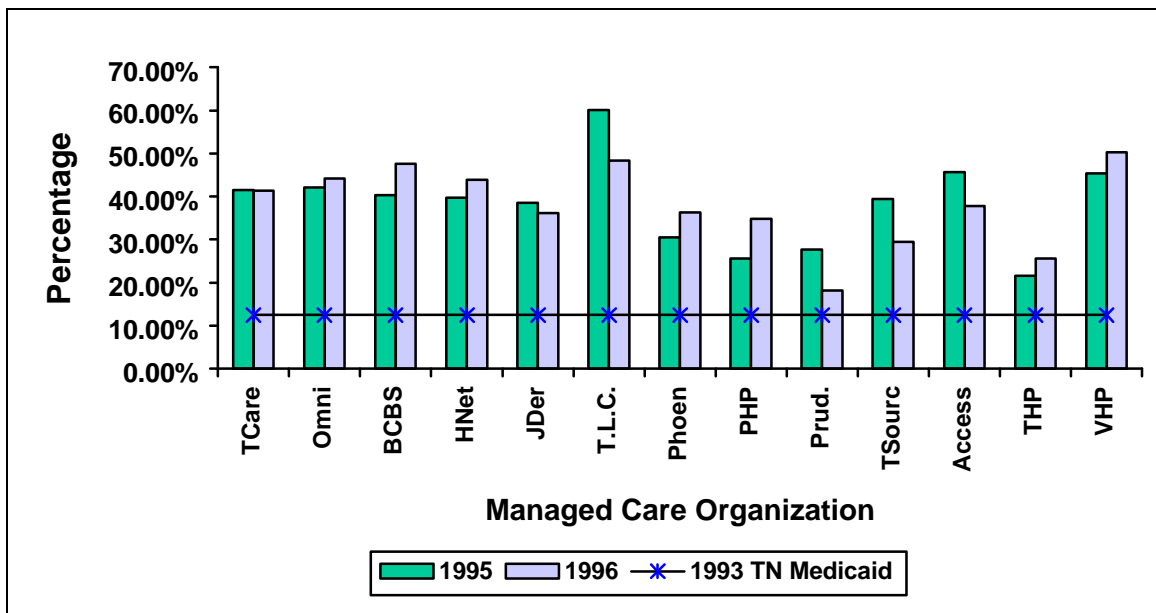


Figure 17: Percentage of Continuously Enrolled TennCare Members Between the Ages of 3 and 6 Who Received One or More Well Child Visits by Managed Care Organization

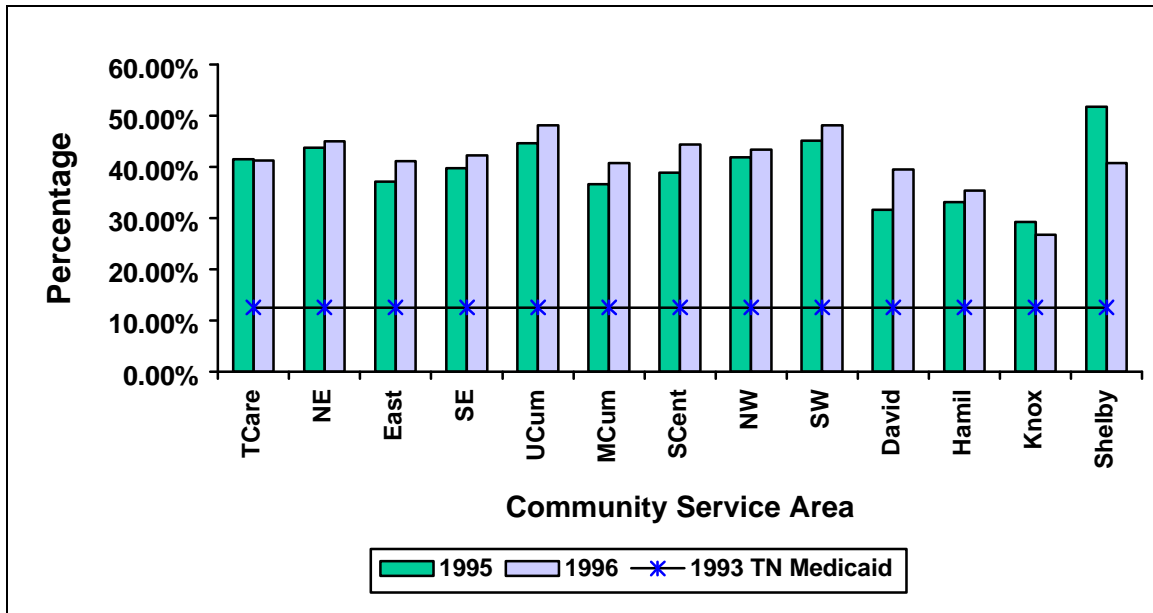


Figure 18: Percentage of Continuously Enrolled TennCare Members Between the Ages of 3 and 6 Who Received One or More Well Child Visits by Community Service Area

### Annual Dental Visit

Dental visit percentages are displayed in Figures 19 and 20. This is the only measure in which 1993 Medicaid performance exceeded that of overall TennCare. The percentage of children receiving a dental visit did increase from 1995 to 1996, however, with the 1996 percentages approaching 1993 levels. MCO performance was quite varied, particularly in 1995, with percentages ranging from 4.82 for Omni to 45.72 for TennSource. Seven MCO demonstrated increases from 1995 to 1996, while the others decreased. Only five MCOs surpassed the Medicaid percentage; TennSource and Access Med Plus were the sole MCOs to do so both years. All of the CSAs increased from 1995 to 1996, but only the Knox, Shelby, and Northeast CSAs reached or exceeded Medicaid.

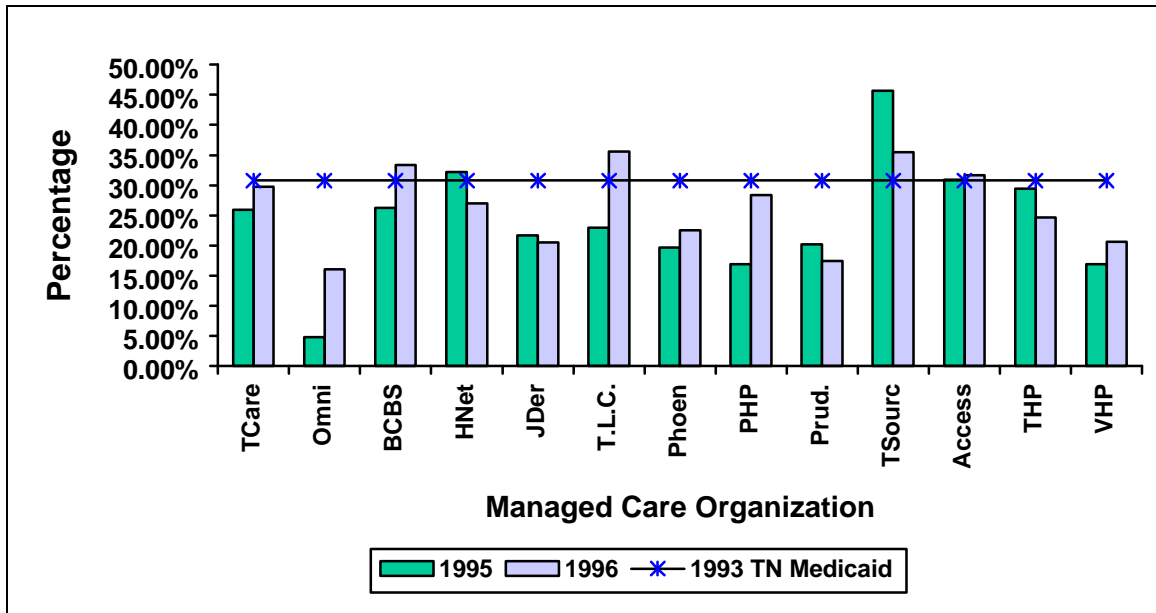


Figure 19: Percentage of Continuously Enrolled TennCare Members Between the Ages of 4 and 21 Who Received One or More Dental Visits by Managed Care Organization

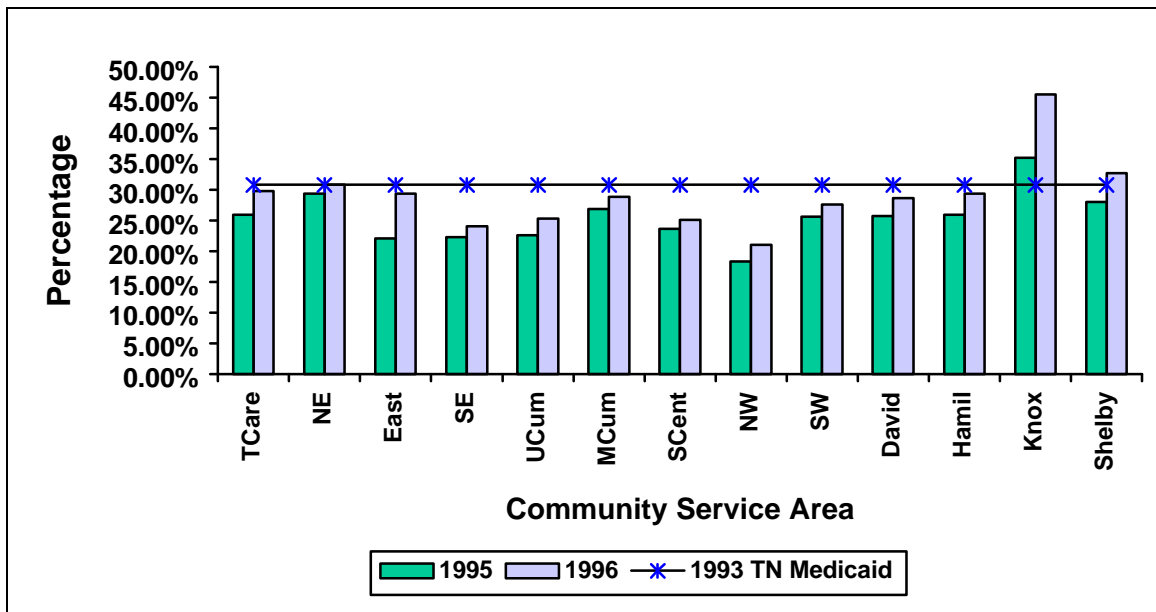


Figure 20: Percentage of Continuously Enrolled TennCare Members Between the Ages of 4 and 21 Who Received One or More Dental Visits by Community Service Area

## Discussion

This report reviewed two methodologies of assessing TennCare and MCO performance of mammography screening, pap smears, well child visits, and dental visits. It also reviewed TennCare and MCO rates of hospitalizations for ambulatory care sensitive conditions. These measures are felt to be strong indicators of performance in the delivery of preventive services and effective outpatient care. Improvements were noted from 1995 to 1996 in four of the five indicators measured. Well child visits for children ages three through six did not increase from 1995 to 1996. However, both the 1995 and the 1996 rates were above the rate experienced in 1993 under the last year of operation of the traditional fee-for-service Medicaid program, and the percentage of continuously enrolled children receiving a well child visit remained virtually constant from 1995 to 1996.

The two methodologies presented provide different perspectives for evaluating the success of service delivery to TennCare members. The traditional member year measures encompass all individuals enrolled in TennCare throughout the year proportionate to their length of enrollment. The HEDIS measures, however, evaluate only those individuals who were continuously enrolled. The most dramatic difference between the methodologies appears to be that the HEDIS measures indicate better TennCare performance in relation to Medicaid. For mammography screening, well child visits, and hospitalizations for ambulatory care sensitive conditions, the 1995 and 1996 TennCare performances represent an improvement over 1993 Medicaid performance regardless of which methodology is used. However, the improvement in well child visits is even more pronounced using the HEDIS methodology. In addition, the percentage of TennCare women receiving pap smears exceeds the percentage of Medicaid women under the HEDIS methodology, but the member year methodology shows a TennCare rate lower than Medicaid. Finally, the percentage of continuously enrolled children receiving dental visits approaches the Medicaid percentage more closely than the rate of all children approaches the Medicaid rate.

The patterns of performance across MCOs (how MCOs are performing on a particular measure in relation to each other) seem to be relatively stable across the member year and HEDIS methodologies. Pap smear screening rates and percentages varied greatly from MCO to MCO, and the extremely poor performance of two MCOs (Access Med Plus and Prudential) brought the overall TennCare rate below the 1993 level. Further investigation may be necessary to determine whether the rates and percentages in these two MCOs represent a true failure to provide services or some problem with data capture at the MCO.

This determination will be critical to the development of an effective corrective action plan to improve screening rates. For example, a medical record review might reveal that many pap smears were provided to Access Med Plus and/or Prudential enrollees, however, information concerning the delivery of these services was never submitted to the MCO. In this case, an appropriate corrective action plan would involve developing

reporting policies and procedures and educating providers concerning reporting requirements. On the other hand, if a medical record review confirmed that few pap smears had been provided, an appropriate corrective action plan might focus on outreach activities to encourage more women to make appointments for screens.

Finally an analysis of MCO rates across all five indicators reveals that no specific MCO consistently performed better or worse than their peers. Each MCO appears to have different strengths and weaknesses.

The incorporation of two different methodologies of computing preventive service measures in this study seems to suggest that TennCare is most successful in tending to the health care needs of the members who are enrolled in the program for all or most of the year. It is likely that these individuals benefit from outreach and case management programs provided by the MCOs, services which may not be targeted to enrollees who are members of the health plan for a shorter period of time. It is encouraging that these types of programs appear to be effective for some members, but it is important to note that the MCOs are still responsible for the health care needs of all enrollees, regardless of the period of enrollment.



## Appendix A

Table 1: Mammogram Rates per 1000 Female Member Years Age 50 through 64 by Managed Care Organization

	<b>1995</b>	<b>1996</b>
<b>TennCare</b>	215.37	252.18
OmniCare	132.92	249.61
Blue Cross / Blue Shield	233.06	259.11
HealthNet	203.54	255.50
John Deere	239.34	269.35
T.L.C.	262.74	315.31
Phoenix	172.71	226.11
PHP	138.19	247.31
Prudential	252.87	188.64
TennSource	226.05	156.46
Access Med Plus	201.26	217.77
THP	170.16	287.44
Vanderbilt Health Plan	278.10	254.95

Table 2: Mammogram Rates per 1000 Female Member Years Age 50 through 64 by Community Service Area

	<b>1995</b>	<b>1996</b>
<b>TennCare</b>	215.37	252.18
Northeast	252.16	270.29
East	204.86	263.71
Southeast	229.16	264.85
Upper Cumberland	215.07	259.04
Middle Cumberland	223.11	269.29
South Central	183.61	215.76
Northwest	172.61	210.00
Southwest	177.54	212.52
Davidson	224.37	247.60
Hamilton	306.25	328.04
Knox	219.03	229.13
Shelby	196.41	238.73

Table 3: Pap Smear Rates per 1000 Female Member Years Age 21 through 64 by Managed Care Organization

	<b>1995</b>	<b>1996</b>
<b>TennCare</b>	200.30	242.63
OmniCare	147.56	283.65
Blue Cross / Blue Shield	299.14	341.82
HealthNet	283.73	353.79
John Deere	243.64	224.38
T.L.C.	62.25	130.86
Phoenix	82.94	95.58
PHP	166.95	245.72
Prudential	2.33	4.62
TennSource	222.01	170.62
Access Med Plus	15.73	8.14
THP	210.67	300.56
Vanderbilt Health Plan	218.46	216.33

Table 4: Pap Smear Rates per 1000 Female Member Years Age 21 through 64 by Community Service Area

	<b>1995</b>	<b>1996</b>
<b>TennCare</b>	200.30	242.63
Northeast	269.91	308.39
East	233.83	256.15
Southeast	216.77	253.44
Upper Cumberland	266.02	314.99
Middle Cumberland	248.40	316.14
South Central	201.46	266.21
Northwest	209.68	235.26
Southwest	191.04	245.01
Davidson	220.57	270.47
Hamilton	157.91	177.16
Knox	265.71	273.07
Shelby	70.18	111.24

Table 5: Well Child Visit Rates per 1000 Member Years Age 3 through 6 by Managed Care Organization

	<b>1995</b>	<b>1996</b>
<b>TennCare</b>	577.22	529.83
OmniCare	611.49	552.56
Blue Cross / Blue Shield	536.90	576.97
HealthNet	499.77	568.38
John Deere	474.28	435.15
T.L.C.	1097.15	670.52
Phoenix	415.61	435.78
PHP	279.86	382.56
Prudential	340.56	224.31
TennSource	467.24	326.41
Access Med Plus	680.69	466.9
THP	253.58	492.95
Vanderbilt Health Plan	555.88	658.34

Table 6: Well Child Visit Rates per 1000 Member Years Age 3 through 6 by Community Service Area

	<b>1995</b>	<b>1996</b>
<b>TennCare</b>	577.22	529.83
Northeast	549.38	563.95
East	467.34	475.68
Southeast	517.12	561.83
Upper Cumberland	616.83	654.66
Middle Cumberland	437.29	500.63
South Central	497.50	625.64
Northwest	574.69	597.38
Southwest	734.18	782.75
Davidson	387.78	493.75
Hamilton	366.31	386.14
Knox	334.64	282.66
Shelby	827.60	504.02

Table 7: Dental Visit Rates per 1000 Member Years Under the Age of 21 by Managed Care Organization

	<b>1995</b>	<b>1996</b>
<b>TennCare</b>	478.80	564.30
OmniCare	75.40	252.86
Blue Cross / Blue Shield	494.64	566.45
HealthNet	634.45	554.25
John Deere	480.12	524.45
T.L.C.	287.10	578.84
Phoenix	443.46	504.75
PHP	298.33	691.74
Prudential	256.93	293.42
TennSource	833.00	917.28
Access Med Plus	542.84	585.61
THP	852.78	677.92
Vanderbilt Health Plan	320.18	423.24

Table 8: Dental Visit Rates per 1000 Member Years Under the Age of 21 by Community Service Area

	<b>1995</b>	<b>1996</b>
<b>TennCare</b>	478.80	564.30
Northeast	614.53	675.70
East	438.55	594.65
Southeast	467.88	549.81
Upper Cumberland	461.59	525.45
Middle Cumberland	516.98	551.75
South Central	480.61	519.78
Northwest	332.45	393.90
Southwest	462.76	532.96
Davidson	456.87	519.44
Hamilton	445.78	561.34
Knox	670.83	747.71
Shelby	423.35	519.48

Table 9: Crude Admission Rates per 1000 Member Years Under the Age of 65 for All Ambulatory Care Sensitive Diagnoses by Managed Care Organization

	<b>1995</b>	<b>1996</b>
<b>TennCare</b>	21.97	19.43
OmniCare	10.84	15.37
Blue Cross / Blue Shield	25.48	21.18
HealthNet	23.31	22.63
John Deere	21.49	17.20
T.L.C.	21.91	23.61
Phoenix	15.95	13.04
PHP	15.34	22.88
Prudential	10.07	13.57
TennSource	15.05	12.58
Access Med Plus	19.38	15.67
THP	23.41	18.81
Vanderbilt Health Plan	24.14	25.76

Table 10: Crude Admission Rates per 1000 Member Years Under the Age of 65 for All Ambulatory Care Sensitive Diagnoses by Community Service Area

	<b>1995</b>	<b>1996</b>
<b>TennCare</b>	21.97	19.43
Northeast	20.83	15.93
East	23.23	19.71
Southeast	25.05	19.62
Upper Cumberland	36.95	33.31
Middle Cumberland	24.86	21.60
South Central	27.49	25.43
Northwest	27.79	25.65
Southwest	18.30	16.42
Davidson	20.23	19.03
Hamilton	21.76	14.98
Knox	20.74	15.13
Shelby	15.40	16.24

Table 11: 1995 Adjusted Admission Rates per 1000  
Member Years Under the Age of 65 for All Ambulatory  
Care Sensitive Diagnoses by Managed Care Organization

	<b>1995</b>
<b>TennCare</b>	21.16
OmniCare	23.3
Blue Cross / Blue Shield	23.0
HealthNet	16.6
John Deere	21.9
T.L.C.	38.8
Phoenix	19.8
PHP	51.6
Prudential	18.0
TennSource	10.9
Access Med Plus	23.0
THP	33.5
Vanderbilt Health Plan	23.1

Table 12: 1996 Adjusted Admission Rates per 1000  
Member Years Under the Age of 65 for All Ambulatory  
Care Sensitive Diagnoses by Managed Care Organization

	<b>1996</b>
<b>TennCare</b>	19.34
OmniCare	17.42
Blue Cross / Blue Shield	19.65
HealthNet	15.45
John Deere	16.29
T.L.C.	37.07
Phoenix	18.31
PHP	60.32
Prudential	20.14
TennSource	7.47
Access Med Plus	18.03
THP	18.48
Vanderbilt Health Plan	27.74

## Appendix B

Table 13: Percentages of Continuously Enrolled TennCare Members Between the Ages of 52 and 69 Who Received a Mammogram During the Reporting Year or Previous Year by Managed Care Organization

	<b>1995</b>	<b>1996</b>
<b>TennCare</b>	22.21%	26.04%
OmniCare	20.76%	30.97%
Blue Cross / Blue Shield	24.99%	28.59%
HealthNet	21.96%	25.47%
John Deere	27.48%	24.93%
T.L.C.	26.29%	28.94%
Phoenix	21.31%	22.18%
PHP	13.60%	27.94%
Prudential	24.89%	30.62%
TennSource	19.77%	23.14%
Access Med Plus	16.94%	19.09%
THP	21.45%	17.96%
Vanderbilt Health Plan	27.45%	30.11%

Table 14: Percentages of Continuously Enrolled TennCare Members Between the Ages of 52 and 69 Who Received a Mammogram During the Reporting Year or Previous Year by Community Service Area

	<b>1995</b>	<b>1996</b>
<b>TennCare</b>	22.21%	26.04%
Northeast	27.95%	30.43%
East	20.34%	24.75%
Southeast	25.65%	29.06%
Upper Cumberland	22.20%	26.49%
Middle Cumberland	24.27%	29.17%
South Central	17.73%	21.57%
Northwest	13.58%	17.08%
Southwest	17.32%	20.48%
Davidson	23.47%	28.65%
Hamilton	32.40%	34.95%
Knox	24.83%	24.69%
Shelby	18.16%	22.69%

Table 15: Percentages of Continuously Enrolled TennCare Members Between the Ages of 21 and 64 Who Received at Least One Pap Smear During the Reporting Year or Previous Two Years by Managed Care Organization

	1995	1996
<b>TennCare</b>	24.65%	32.14%
OmniCare	22.71%	41.79%
Blue Cross / Blue Shield	35.32%	45.84%
HealthNet	35.38%	47.78%
John Deere	40.69%	41.05%
T.L.C.	8.9%	17.74%
Phoenix	11.36%	16.15%
PHP	16.41%	31.11%
Prudential	0.53%	0.78%
TennSource	30.75%	31.23%
Access Med Plus	4.10%	4.32%
THP	27.30%	38.70%
Vanderbilt Health Plan	37.12%	47.62%

Table 16: Percentages of Continuously Enrolled TennCare Members Between the Ages of 21 and 64 Who Received at Least One Pap Smear During the Reporting Year or Previous Two Years by Community Service Area

	1995	1996
<b>TennCare</b>	24.65%	32.14%
Northeast	33.31%	43.47%
East	25.82%	25.21%
Southeast	28.71%	38.15%
Upper Cumberland	30.79%	41.05%
Middle Cumberland	30.73%	41.57%
South Central	25.71%	35.91%
Northwest	23.23%	30.01%
Southwest	23.28%	31.52%
Davidson	30.03%	40.52%
Hamilton	19.69%	27.68%
Knox	30.99%	31.31%
Shelby	11.01%	17.77%



Table 17: Percentages of Continuously Enrolled TennCare Members Between the Ages of 3 and 6 Who Received One or More Well Child Visits by Managed Care Organization

	1995	1996
<b>TennCare</b>	41.54%	41.29%
OmniCare	42.04%	44.18%
Blue Cross / Blue Shield	40.38%	47.58%
HealthNet	39.79%	43.93%
John Deere	38.55%	36.09%
T.L.C.	60.02%	48.37%
Phoenix	30.53%	36.27%
PHP	25.62%	34.82%
Prudential	27.62%	18.18%
TennSource	39.46%	29.39%
Access Med Plus	45.73%	37.81%
THP	21.66%	25.62%
Vanderbilt Health Plan	45.31%	50.34%

Table 18: Percentages of Continuously Enrolled TennCare Members Between the Ages of 3 and 6 Who Received One or More Well Child Visits by Community Service Area

	1995	1996
<b>TennCare</b>	41.54%	41.29%
Northeast	43.79%	44.99%
East	37.08%	41.16%
Southeast	39.70%	42.22%
Upper Cumberland	44.68%	48.14%
Middle Cumberland	36.60%	40.73%
South Central	38.84%	44.38%
Northwest	41.89%	43.44%
Southwest	45.20%	48.11%
Davidson	31.60%	39.53%
Hamilton	33.18%	35.36%
Knox	29.26%	26.79%
Shelby	51.83%	40.73%

Table 19: Percentages of Continuously Enrolled TennCare Members Between the Ages of 4 and 21 Who Received One or More Dental Visits by Managed Care Organization

	1995	1996
<b>TennCare</b>	25.98%	29.76%
OmniCare	4.85%	16.09%
Blue Cross / Blue Shield	26.28%	33.32%
HealthNet	32.23%	26.99%
John Deere	21.63%	20.54%
T.L.C.	22.92%	35.59%
Phoenix	19.65%	22.56%
PHP	16.88%	28.34%
Prudential	20.18%	17.43%
TennSource	45.72%	35.44%
Access Med Plus	30.94%	31.61%
THP	29.47%	24.62%
Vanderbilt Health Plan	16.86%	20.58%

Table 20: Percentages of Continuously Enrolled TennCare Members Between the Ages of 4 and 21 Who Received One or More Dental Visits by Community Service Area

	1995	1996
<b>TennCare</b>	25.98%	29.76%
Northeast	29.38%	30.80%
East	22.04%	29.42%
Southeast	22.34%	24.04%
Upper Cumberland	22.64%	25.27%
Middle Cumberland	26.87%	28.84%
South Central	23.66%	25.13%
Northwest	18.37%	21.06%
Southwest	25.62%	27.58%
Davidson	25.72%	28.63%
Hamilton	25.99%	29.42%
Knox	35.26%	45.56%
Shelby	28.03%	32.67%